

Supplementary Table 3

ABA to ST LASSO, alpha=0.1

auroc file = "ABAtoST_Tall_f1_Op1_051420.csv"

| AUROC >= 0.95; path length = 2 | | | | | | | |
|--------------------------------|----------|---------------------------------------|--------|--------------|---------|--------------------------------------|--------|
| Brain Area 1 | | | | Brain Area 2 | | | |
| id | acronym | name | parent | id | acronym | name | parent |
| 1005 | AUDp6b | Primary auditory area, layer 6b | 1002 | 816 | AUDp4 | Primary auditory area, layer 4 | 1002 |
| 943 | MOp2/3 | Primary motor area, Layer 2/3 | 985 | 882 | MOp6b | Primary motor area, Layer 6b | 985 |
| 882 | MOp6b | Primary motor area, Layer 6b | 985 | 320 | MOp1 | Primary motor area, Layer 1 | 985 |
| 269 | VISpl2/3 | Posterolateral visual area, layer 2/3 | 425 | 377 | VISpl6a | Posterolateral visual area, layer 6a | 425 |
| 1045 | ECT6b | Ectorhinal area/Layer 6b | 895 | 836 | ECT1 | Ectorhinal area/Layer 1 | 895 |

| AUROC <=0.5; path length = 2 | | | | | | | |
|------------------------------|-----------|---|--------|--------------|----------|--|--------|
| Brain Area 1 | | | | Brain Area 2 | | | |
| id | acronym | name | parent | id | acronym | name | parent |
| 657 | SSp-m2/3 | Primary somatosensory area, mouth, layer 2/3 | 345 | 950 | SSp-m4 | Primary somatosensory area, mouth, layer 4 | 345 |
| 1114 | VISal4 | Anterolateral visual area, layer 4 | 402 | 233 | VISal5 | Anterolateral visual area, layer 5 | 402 |
| 606 | RSPv2 | Retrosplenial area, ventral part, layer 2 | 886 | 622 | RSPv6b | Retrosplenial area, ventral part, layer 6b | 886 |
| 606 | RSPv2 | Retrosplenial area, ventral part, layer 2 | 886 | 430 | RSPv2/3 | Retrosplenial area, ventral part, layer 2/3 | 886 |
| 472 | MEApd-a | Medial amygdalar nucleus, posterodorsal part, sublayer a | 426 | 487 | MEApd-c | Medial amygdalar nucleus, posterodorsal part, sublayer c | 426 |
| 472 | MEApd-a | Medial amygdalar nucleus, posterodorsal part, sublayer a | 426 | 480 | MEApd-b | Medial amygdalar nucleus, posterodorsal part, sublayer b | 426 |
| 980 | PMd | Dorsal premammillary nucleus | 467 | 946 | PH | Posterior hypothalamic nucleus | 467 |
| 980 | PMd | Dorsal premammillary nucleus | 467 | 1004 | PMv | Ventral premammillary nucleus | 467 |
| 296 | ACAv2/3 | Anterior cingulate area, ventral part, layer 2/3 | 48 | 772 | ACAv5 | Anterior cingulate area, ventral part, layer 5 | 48 |
| 148 | GU4 | Gustatory areas, layer 4 | 1057 | 187 | GU5 | Gustatory areas, layer 5 | 1057 |
| 148 | GU4 | Gustatory areas, layer 4 | 1057 | 662 | GU6b | Gustatory areas, layer 6b | 1057 |
| 783 | Ald6a | Agranular insular area, dorsal part, layer 6a | 104 | 1101 | Ald5 | Agranular insular area, dorsal part, layer 5 | 104 |
| 381 | SNr | Substantia nigra, reticular part | 323 | 616 | CUN | Cuneiform nucleus | 323 |
| 381 | SNr | Substantia nigra, reticular part | 323 | 757 | VTN | Ventral tegmental nucleus | 323 |
| 191 | AONm | Anterior olfactory nucleus, medial part | 159 | 167 | AONd | Anterior olfactory nucleus, dorsal part | 159 |
| 416 | PAA2 | Piriform-amygdalar area, pyramidal layer | 788 | 424 | PAA3 | Piriform-amygdalar area, polymorph layer | 788 |
| 868 | PBlid | Parabrachial nucleus, lateral division, dorsal lateral part | 881 | 860 | PBlc | Parabrachial nucleus, lateral division, central lateral part | 881 |
| 868 | PBlid | Parabrachial nucleus, lateral division, dorsal lateral part | 881 | 891 | PBlv | Parabrachial nucleus, lateral division, ventral lateral part | 881 |
| 1106 | VISC2/3 | Visceral area, layer 2/3 | 677 | 1058 | VISC5 | Visceral area, layer 5 | 677 |
| 628 | NOT | Nucleus of the optic tract | 1100 | 634 | NPC | Nucleus of the posterior commissure | 1100 |
| 628 | NOT | Nucleus of the optic tract | 1100 | 215 | APN | Anterior pretectal nucleus | 1100 |
| 105 | SOCm | Superior olivary complex, medial part | 398 | 122 | POR | Superior olivary complex, periolivary region | 398 |
| 194 | LHA | Lateral hypothalamic area | 290 | 364 | PSTN | Parasubthalamic nucleus | 290 |
| 1062 | SSp-bfd6b | Primary somatosensory area, barrel field, layer 6b | 329 | 1070 | SSp-bfd5 | Primary somatosensory area, barrel field, layer 5 | 329 |
| 465 | OT2 | Olfactory tubercle, pyramidal layer | 754 | 473 | OT3 | Olfactory tubercle, polymorph layer | 754 |
| 465 | OT2 | Olfactory tubercle, pyramidal layer | 754 | 481 | isl | Islands of Calleja | 754 |
| 1102 | SSp-m6a | Primary somatosensory area, mouth, layer 6a | 345 | 878 | SSp-m1 | Primary somatosensory area, mouth, layer 1 | 345 |
| 1102 | SSp-m6a | Primary somatosensory area, mouth, layer 6a | 345 | 2 | SSp-m6b | Primary somatosensory area, mouth, layer 6b | 345 |
| 189 | RH | Rhomboid nucleus | 51 | 575 | CL | Central lateral nucleus of the thalamus | 51 |
| 694 | Alv2/3 | Agranular insular area, ventral part, layer 2/3 | 119 | 800 | Alv5 | Agranular insular area, ventral part, layer 5 | 119 |
| 344 | Alp5 | Agranular insular area, posterior part, layer 5 | 111 | 314 | Alp6a | Agranular insular area, posterior part, layer 6a | 111 |
| 965 | RSPag12/3 | Retrosplenial area, lateral agranular part, layer 2/3 | 894 | 774 | RSPag15 | Retrosplenial area, lateral agranular part, layer 5 | 894 |
| 272 | AVPV | Anteroventral periventricular nucleus | 141 | 523 | MPO | Medial preoptic area | 141 |
| 272 | AVPV | Anteroventral periventricular nucleus | 141 | 347 | SBPV | Subparaventricular zone | 141 |
| 263 | AVP | Anteroventral preoptic nucleus | 141 | 286 | SCH | Suprachiasmatic nucleus | 141 |
| 263 | AVP | Anteroventral preoptic nucleus | 141 | 523 | MPO | Medial preoptic area | 141 |
| 263 | AVP | Anteroventral preoptic nucleus | 141 | 126 | PVp | Periventricular hypothalamic nucleus, posterior part | 141 |
| 458 | OT1 | Olfactory tubercle, molecular layer | 754 | 481 | isl | Islands of Calleja | 754 |
| 687 | RSPv5 | Retrosplenial area, ventral part, layer 5 | 886 | 430 | RSPv2/3 | Retrosplenial area, ventral part, layer 2/3 | 886 |
| 292 | BA | Bed nucleus of the accessory olfactory tract | 278 | 1105 | IA | Intercalated amygdalar nucleus | 278 |
| 635 | PTLp4 | Posterior parietal association areas, layer 4 | 22 | 241 | PTLp2/3 | Posterior parietal association areas, layer 2/3 | 22 |
| 683 | PTLp5 | Posterior parietal association areas, layer 5 | 22 | 241 | PTLp2/3 | Posterior parietal association areas, layer 2/3 | 22 |
| 622 | RSPv6b | Retrosplenial area, ventral part, layer 6b | 886 | 590 | RSPv6a | Retrosplenial area, ventral part, layer 6a | 886 |
| 622 | RSPv6b | Retrosplenial area, ventral part, layer 6b | 886 | 430 | RSPv2/3 | Retrosplenial area, ventral part, layer 2/3 | 886 |
| 1086 | SSp-tr4 | Primary somatosensory area, trunk, layer 4 | 361 | 461 | SSp-tr6b | Primary somatosensory area, trunk, layer 6b | 361 |
| 305 | VISp6b | Primary visual area, layer 6b | 385 | 33 | VISp6a | Primary visual area, layer 6a | 385 |
| 837 | SUBd-sr | Subiculum, dorsal part, stratum radiatum | 509 | 845 | SUBd-sp | Subiculum, dorsal part, pyramidal layer | 509 |
| 544 | CEAc | Central amygdalar nucleus, capsular part | 536 | 551 | CEAl | Central amygdalar nucleus, lateral part | 536 |
| 411 | MEAad | Medial amygdalar nucleus, anterodorsal part | 403 | 418 | MEAav | Medial amygdalar nucleus, anteroventral part | 403 |
| 614 | TU | Tuberal nucleus | 290 | 173 | RCH | Retrochiasmatic area | 290 |
| 614 | TU | Tuberal nucleus | 290 | 226 | LPO | Lateral preoptic area | 290 |
| 187 | GU5 | Gustatory areas, layer 5 | 1057 | 662 | GU6b | Gustatory areas, layer 6b | 1057 |
| 41 | VISpm2/3 | posteromedial visual area, layer 2/3 | 533 | 565 | VISpm5 | posteromedial visual area, layer 5 | 533 |
| 303 | BLAa | Basolateral amygdalar nucleus, anterior part | 295 | 451 | BLAv | Basolateral amygdalar nucleus, ventral part | 295 |
| 654 | SSp-n4 | Primary somatosensory area, nose, layer 4 | 353 | 838 | SSp-n2/3 | Primary somatosensory area, nose, layer 2/3 | 353 |
| 266 | LSv | Lateral septal nucleus, ventral part | 242 | 258 | LSr | Lateral septal nucleus, rostral (rostroventral) part | 242 |
| 304 | PL2/3 | Prelimbic area, layer 2/3 | 972 | 363 | PL5 | Prelimbic area, layer 5 | 972 |
| 646 | DP5 | Dorsal peduncular area, layer 5 | 814 | 360 | DP2/3 | Dorsal peduncular area, layer 2/3 | 814 |
| 412 | ORB12/3 | Orbital area, lateral part, layer 2/3 | 723 | 448 | ORB1 | Orbital area, lateral part, layer 1 | 723 |
| 616 | CUN | Cuneiform nucleus | 323 | 757 | VTN | Ventral tegmental nucleus | 323 |
| 772 | ACAv5 | Anterior cingulate area, ventral part, layer 5 | 48 | 588 | ACAv1 | Anterior cingulate area, ventral part, layer 1 | 48 |
| 286 | SCH | Suprachiasmatic nucleus | 141 | 347 | SBPV | Subparaventricular zone | 141 |
| 486 | CA3so | Field CA3, stratum oriens | 463 | 471 | CA3sm | Field CA3, stratum lacunosum-moleculare | 463 |
| 1075 | TTv2 | Taenia tecta, ventral part, layer 2 | 605 | 1082 | TTv3 | Taenia tecta, ventral part, layer 3 | 605 |
| 692 | PERI5 | Perirhinal area, layer 5 | 922 | 335 | PERI6a | Perirhinal area, layer 6a | 922 |
| 501 | VISpm4 | posteromedial visual area, layer 4 | 533 | 565 | VISpm5 | posteromedial visual area, layer 5 | 533 |
| 233 | VISal5 | Anterolateral visual area, layer 5 | 402 | 649 | VISal6b | Anterolateral visual area, layer 6b | 402 |
| 233 | VISal5 | Anterolateral visual area, layer 5 | 402 | 601 | VISal6a | Anterolateral visual area, layer 6a | 402 |
| 520 | AUDv6a | Ventral auditory area, layer 6a | 1018 | 598 | AUDv6b | Ventral auditory area, layer 6b | 1018 |
| 1045 | ECT6b | Ectorhinal area/Layer 6b | 895 | 977 | ECT6a | Ectorhinal area/Layer 6a | 895 |
| 52 | ENT13 | Entorhinal area, lateral part, layer 3 | 918 | 715 | ENT12a | Entorhinal area, lateral part, layer 2a | 918 |

| | | | | | |
|---------------|---|------|--------------|---|------|
| 473 OT3 | Olfactory tubercle, polymorph layer | 754 | 481 isl | Islands of Calleja | 754 |
| 712 ENTm4 | Entorhinal area, medial part, dorsal zone, layer 4 | 926 | 664 ENTm3 | Entorhinal area, medial part, dorsal zone, layer 3 | 926 |
| 883 PBIs | Parabrachial nucleus, lateral division, superior lateral part | 881 | 891 PBlv | Parabrachial nucleus, lateral division, ventral lateral part | 881 |
| 471 CA3slm | Field CA3, stratum lacunosum-moleculare | 463 | 495 CA3sp | Field CA3, pyramidal layer | 463 |
| 670 SSp-tr2/3 | Primary somatosensory area, trunk, layer 2/3 | 361 | 461 SSp-tr6b | Primary somatosensory area, trunk, layer 6b | 361 |
| 872 DR | Dorsal nucleus raphe | 165 | 591 CLI | Central linear nucleus raphe | 165 |
| 460 MEV | Midbrain trigeminal nucleus | 339 | 580 NB | Nucleus of the brachium of the inferior colliculus | 339 |
| 537 BSTal | Bed nuclei of the stria terminalis, anterior division, anterolateral area | 359 | 498 BSTam | Bed nuclei of the stria terminalis, anterior division, anteromedial area | 359 |
| 1094 SSp-II4 | Primary somatosensory area, lower limb, layer 4 | 337 | 510 SSp-II6b | Primary somatosensory area, lower limb, layer 6b | 337 |
| 162 LDT | Laterodorsal tegmental nucleus | 1117 | 358 SLD | Sublaterodorsal nucleus | 1117 |
| 162 LDT | Laterodorsal tegmental nucleus | 1117 | 238 RPO | Nucleus raphe pontis | 1117 |
| 757 VTN | Ventral tegmental nucleus | 323 | 749 VTA | Ventral tegmental area | 323 |
| 757 VTN | Ventral tegmental nucleus | 323 | 246 RR | Midbrain reticular nucleus, retrorubral area | 323 |
| 757 VTN | Ventral tegmental nucleus | 323 | 214 RN | Red nucleus | 323 |
| 889 SSp-n6a | Primary somatosensory area, nose, layer 6a | 353 | 702 SSp-n5 | Primary somatosensory area, nose, layer 5 | 353 |
| 149 PVT | Paraventricular nucleus of the thalamus | 571 | 15 PT | Parataenial nucleus | 571 |
| 604 NI | Nucleus incertus | 1117 | 358 SLD | Sublaterodorsal nucleus | 1117 |
| 307 MARN | Magnocellular reticular nucleus | 370 | 661 VII | Facial motor nucleus | 370 |
| 907 PCN | Paracentral nucleus | 51 | 599 CM | Central medial nucleus of the thalamus | 51 |
| 649 VISal6b | Anterolateral visual area, layer 6b | 402 | 601 VISal6a | Anterolateral visual area, layer 6a | 402 |
| 724 AHNp | Anterior hypothalamic nucleus, posterior part | 88 | 708 AHNc | Anterior hypothalamic nucleus, central part | 88 |
| 591 CLI | Central linear nucleus raphe | 165 | 100 IPN | Interpeduncular nucleus | 165 |
| 487 MEApd-c | Medial amygdalar nucleus, posterodorsal part, sublayer c | 426 | 480 MEApd-b | Medial amygdalar nucleus, posterodorsal part, sublayer b | 426 |
| 232 COAp13 | Cortical amygdalar area, posterior part, lateral zone, layer 3 | 655 | 224 COAp12 | Cortical amygdalar area, posterior part, lateral zone, layer 2 | 655 |
| 377 VISpl6a | Posterolateral visual area, layer 6a | 425 | 902 VISpl5 | Posterolateral visual area, layer 5 | 425 |
| 454 CA2sr | Field CA2, stratum radiatum | 423 | 446 CA2sp | Field CA2, pyramidal layer | 423 |
| 1113 IAD | Interanterodorsal nucleus of the thalamus | 239 | 155 LD | Lateral dorsal nucleus of thalamus | 239 |
| 503 SCig-b | Superior colliculus, motor related, intermediate gray layer, sublayer b | 10 | 511 SCig-c | Superior colliculus, motor related, intermediate gray layer, sublayer c | 10 |
| 634 NPC | Nucleus of the posterior commissure | 1100 | 215 APN | Anterior pretectal nucleus | 1100 |
| 613 VISI5 | Lateral visual area, layer 5 | 409 | 421 VISI1 | Lateral visual area, layer 1 | 409 |
| 56 ACB | Nucleus accumbens | 493 | 998 FS | Fundus of striatum | 493 |
| 578 BSTpr | Bed nuclei of the stria terminalis, posterior division, principal nucleus | 367 | 585 BSTif | Bed nuclei of the stria terminalis, posterior division, interfascicular nucleus | 367 |
| 676 DMHp | Dorsomedial nucleus of the hypothalamus, posterior part | 830 | 668 DMHa | Dorsomedial nucleus of the hypothalamus, anterior part | 830 |
| 360 DP2/3 | Dorsal peduncular area, layer 2/3 | 814 | 496 DP1 | Dorsal peduncular area, layer 1 | 814 |
| 479 CA3slu | Field CA3, stratum lucidum | 463 | 495 CA3sp | Field CA3, pyramidal layer | 463 |
| 511 SCig-c | Superior colliculus, motor related, intermediate gray layer, sublayer c | 10 | 494 SCig-a | Superior colliculus, motor related, intermediate gray layer, sublayer a | 10 |
| 778 VISp5 | Primary visual area, layer 5 | 385 | 721 VISp4 | Primary visual area, layer 4 | 385 |
| 310 SF | Septofimbrial nucleus | 275 | 333 SH | Septohippocampal nucleus | 275 |
| 638 GU6a | Gustatory areas, layer 6a | 1057 | 662 GU6b | Gustatory areas, layer 6b | 1057 |
| 764 ENT12b | Entorhinal area, lateral part, layer 2b | 918 | 715 ENT12a | Entorhinal area, lateral part, layer 2a | 918 |
| 1046 VISam6a | Anteromedial visual area, layer 6a | 394 | 441 VISam6b | Anteromedial visual area, layer 6b | 394 |
| 668 DMHa | Dorsomedial nucleus of the hypothalamus, anterior part | 830 | 684 DMHv | Dorsomedial nucleus of the hypothalamus, ventral part | 830 |
| 1127 TEa2/3 | Temporal association areas, layer 2/3 | 541 | 234 TEa4 | Temporal association areas, layer 4 | 541 |
| 875 PBle | Parabrachial nucleus, lateral division, external lateral part | 881 | 891 PBlv | Parabrachial nucleus, lateral division, ventral lateral part | 881 |
| 1096 AMd | Anteromedial nucleus, dorsal part | 127 | 1104 AMv | Anteromedial nucleus, ventral part | 127 |
| 440 ORBl6a | Orbital area, lateral part, layer 6a | 723 | 630 ORB15 | Orbital area, lateral part, layer 5 | 723 |